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POWER'S CAMERAGRAPH

Nº 5





POWER'S
CAMERAGRAPH

No. 5

"The Modern Moving Picture Machine"

1908 CATALOG
(SECOND EDITION)

This supersedes all previous catalogs

Manufactured by

NICHOLAS POWER COMPANY

Offices:
115-117 Nassau St.

NEW YORK

Factory:
14-22 Jacob St.

Terms

Cash with order, or C. O. D. upon receipt of twenty-five per cent of the amount of the purchase to guarantee transportation charges, cartage and packing.

All remittances must be made in New York funds in the form of Post Office or Express Money Order, or New York Draft.

Goods delivered f. o. b. New York City. No charge for packing or cartage except on special deliveries.

Shipments of less than 100 pounds made by express unless otherwise ordered. Larger shipments made by freight when not otherwise ordered.

All orders should be accompanied by full shipping instructions, specifying freight or express and giving route in either case.

Orders for repair parts should be made by number in all cases.

Power's Cameragraphs are not shipped on approval. We do not rent machines or sell them on installments. We do not handle any second hand goods and do not take old machines in exchange or trade.

All Power's machines and accessories are sold under full guarantee, and any defects in material or workmanship will be promptly rectified. All parts claimed to be defective must be returned to us for examination.

Patents

Power's Cameragraph is manufactured under U. S. Letters Patent Nos. 773981, 809981, 818147, 826112, owned by the Nicholas Power Company and are licensed under the patents owned by the Motion Picture Patents Company.

The public is warned against purchasing or using infringing apparatus.

Introductory

POWER'S CAMERAGRAPHS were first offered to the public some nine years ago, about three years after moving picture machines became generally known and used. In this period they have steadily advanced in popularity and reputation until the Cameragraph is now universally recognized as the best moving picture machine in the world. Though selling at a higher price than any other widely used machine, it has gradually supplanted other machines in those sections where competition in the moving picture business has made the use of high grade apparatus necessary, and it is today the standard moving picture machine of all the leading lecturers and of the finest moving picture theatres.

This success has not been a haphazard product of circumstance, but is the result of a consistent and uninterrupted policy of manufacture. From the first, it has been the aim of the makers to produce the best machine possible, regardless of cost or margin of profit; the material used in its construction has been selected with regard only to its suitability, and every detail of construction has been watched with painstaking care. But this is not all that has made for the success of the Power's Cameragraph. It has led the way in improvements, and in it nearly every substantial improvement in moving picture projecting machines made in the past nine years has been presented to the public. The balanced rotating shutter with one narrow and one wide wing, the sliding framing carriage, the fire proof film magazines, the automatic fire shutter, were all first offered to the public in Power's Cameragraph, and later appeared in modified forms in other machines.

"Imitation is the sincerest flattery."

Power's Cameragraph in 1908

As presented to the public today Power's Cameragraph embodies all the results of nine years of close study and experience in construction. Repeatedly improved by new inventions and advanced methods of construction, it is characterized by the finest workmanship, accuracy of construction, interchangeability of

parts, the highest grade of material, symmetry, compactness, portability, marked durability and fine finish. In its projecting qualities, it stands alone, projecting clear, steady, brilliant pictures, free from flicker, which do not weary the eyes of spectators after hours spent in watching them.

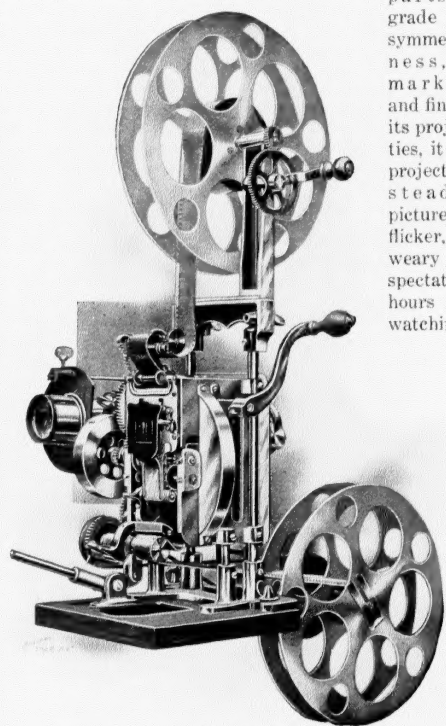


FIG. 2

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The mechanism is the most distinctive element of any moving picture machine, and in the Cameragraph it is characterized by many features of significance.

In Fig. 2 and Fig. 3, the mechanism, which is known as the No. 5 model, is illustrated as equipped with a reel hanger for supporting the upper or supply reel of film, and with a take-up device upon which a reel is mounted to take up the film as it comes from the mechanism. The upper, or turns continuously film from the supply sprocket moves consequently intermittently sprocket. This sprocket moves from a loop formed by the feed

When thus equipped, is supplied with for feeding the film. "feed" sprocket, and unwinds the ply reel. The mid-intermittently and is known as the inter- This sprocket moves from a loop formed sprocket and across

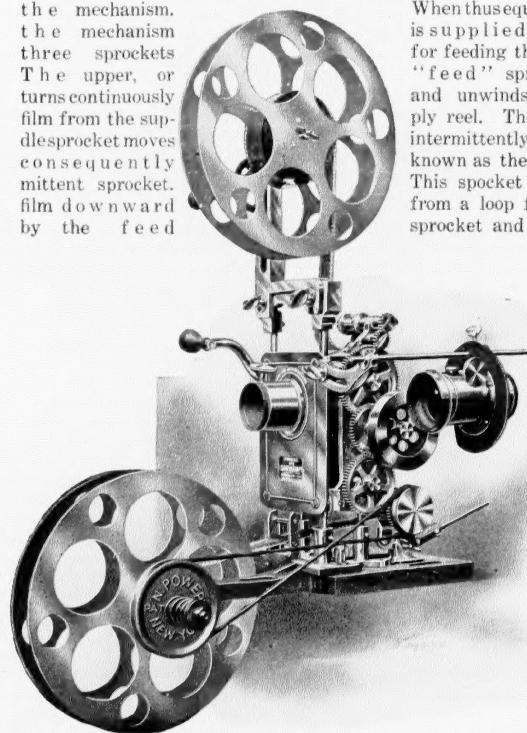


FIG. 3

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the projection aperture, allowing the film to stop momentarily, after each picture on the film is brought before the aperture. The movement of the intermittent sprocket is effected by a star wheel, or Geneva stop, with four slots and a cam wheel with one pin, by which the period of exposure of each picture is made three times as long as the period of movement between exposures. This insures a flickerless picture without causing severe strain on the film. The third, or take-up feed sprocket, turning constantly, feeds the film to the take-up device and prevents the take-up device from pulling the film on the intermittent sprocket.

The revolving shutter by which the light on the screen is cut off during the movement of the film, is of the balanced type, which has been extensively copied in other machines, since it was first brought before the public in the "Cameragraph."

This shutter is mounted in close proximity to the steel aperture plate against which the film is held during exhibition, thus making it possible to use lenses of very short focus.

The framing mechanism is distinctive and comprises a small carriage mounted on the main frame of the mechanism and arranged for vertical sliding movement. The intermittent sprocket, star wheel and pin wheel are all mounted on this carriage, which can be shifted by means of a short lever which has a toggle joint connection with the carriage. An ingenious arrangement of gearing is provided by which constant gear connection is maintained between the crank shaft mounted on the main frame of the machine and the spindle of the sprocket wheel, which is mounted on the framing carriage. As the framing carriage is light and easily moved up and down by means of the framing lever, the framing of the picture in the projection aperture can be effected instantly and without imparting vibration to the mechanism or the stand upon which it is mounted. The sprockets for feeding the film are all of steel, accurately cut and ground, the intermittent sprocket being especially worthy of mention on account of its extreme lightness, combined with great strength. The lightness of this sprocket is of obvious advantage in the operation of the mechanism on account of the small momentum developed in it at each impulse from the pin wheel.

The tension rollers, by which the film is kept in proper engagement with the feed sprockets, are all mounted in pivoted brackets, controlled by springs, and are provided with set screws by which the tension rollers and sprockets may be accurately adjusted so as to insure proper engagement of the film with the sprockets with a minimum of wear upon the film.

The aperture plate is of mild steel, punched out with dies to present an absolutely uniform aperture, and is provided with hardened steel guide strips on its face which insure the greatest possible durability.

The arrangement of the gearing of the mechanism on the left side of the mechanism places it out of the way of the operator. On the right side of the mechanism a shield or casing is provided to cover the rotating shutter and protect it from injury.

To prevent over heating of the gate or door between the film and the light, a heavy cooling plate of brass is supported on the door to receive the light. This cooling plate is held a quarter of an inch from the door and its action is thoroughly efficient.

A readily adjustable stereopticon attachment is provided on each Cameragraph mechanism. This can be supplied to carry a quarter size or half size lens, as desired.

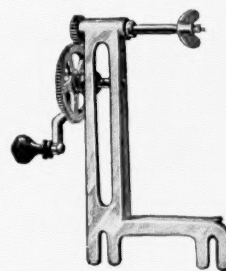


FIG. 4

The Reel Hanger

The Reel Hanger (Fig. 4) is attached to a bracket which is clamped to the top of the mechanism by the thumb screws provided for the purpose. It is equipped with a winding crank for the rapid re-winding of the film, either from a film bag or Take-up Device (illustrated in Figs. 2 and 3, and subsequently explained). The reel is 10 inches in diameter and capable of holding 1000 feet of film.

Price.....\$3.00

Lamp Houses

The Cameragraph can be furnished with either of two styles of lamp house, our "Regular" (Fig. 5) or "New York Approved" style (Fig. 6). A number of valuable features are common to both styles of lamp house. An important feature in each is the manner of mounting on the stand. A series of sliding rods allow double motion, side-wise, forward and back so as to give a forward range of adjustment of 5 inches and a lateral range of 7½ inches.

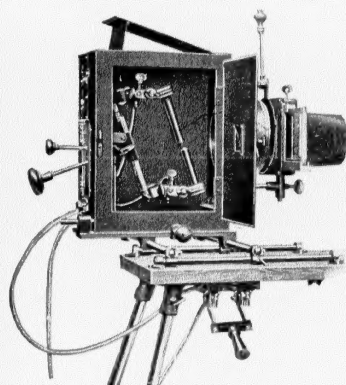


FIG. 5

A second feature of each style of lamp house is the dissolving shutter or dowser. This operates by a movable spindle with spring attachment, holding it in proper position when open or closed. This shutter is a great convenience to the operator, as it enables him to close it and to adjust his lamp (by throwing in the switch, allowing the light to burn a few minutes to produce the proper arc), then to operate the mechanism, lifting the shutter with his left hand at the same time. Besides being of great convenience to the

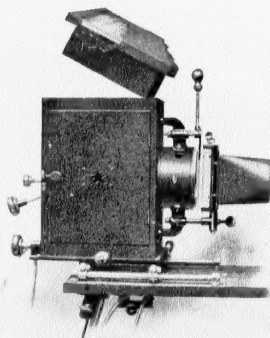


FIG. 6

operator, this shutter is a safe guard against setting fire to the film.

The top of the Regular Lamp House is provided with an oblong opening for ventilation and a hinged cover with an adjustable support affords means for controlling the ventilation.

The top of the New York Approved Lamp House is hinged to the body of the lamp house and is in the form of a hood which rises about four inches above the body, thus affording space for a long upper carbon, and also making the upper carbon and holder conveniently accessible by raising the top. This hood is lined with mica and is provided with perforated side plates for ventilation.

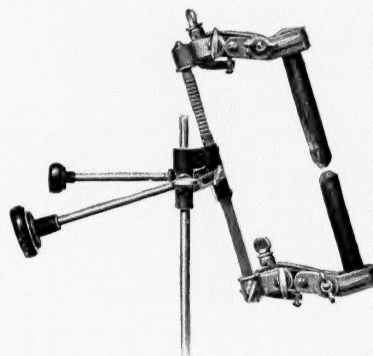


FIG. 7

The Electric Lamp

The Cameragraph is regularly equipped for the use of electric light and the electric arc lamp regularly supplied is designed for simplicity, durability, low cost and ready adjustment. The carbon feed is trolled by a single handle, and the centering of the arc in relation to

the condensers is effected by a tilting screw which can be operated while the lamp is in use. No accidental movement of the lamp after centering is possible. The size of the light spot is controlled by a large adjusting screw engaging the base of the lamp support and serving to move the lamp forward and back. The movements of the lamp are all positively limited so that it is impossible to short circuit the lamp by accidental contact with the walls of the lamp house.

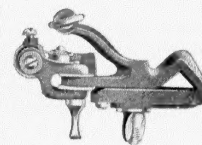


FIG. 8

The carbon holders and supporting knuckles are unusually heavy and are cast from bronze of a composition especially adapted to withstand intense heat. The clamping screws are forged from steel and are so arranged that the expansion of the metal in use does not affect the grip of the carbon holder upon the carbon, thus preventing the annoyance caused by slipping carbons (an accident of frequent occurrence in some types of arc lamp).

A special feature of "Power's" lamps is found in the location of the binding posts as far as possible from the carbons, thus reducing to a minimum the tendency of the wire terminals to burn off. Each binding post is carried by an arm extending rearwardly from the jaw of one of the carbon holders, as shown most clearly in Fig. 8, which is a top view of one of the carbon holders.

The lower carbon holder jaw is cast with a plate on which the lower carbon rests, so that it can not drop to the bottom of the lamp house, even if the clamp is loosened.

Carbons varying from $\frac{3}{8}$ inch to $\frac{1}{2}$ inch can be used, but $\frac{3}{8}$ inch carbons are recommended. The carbons burn on 25 ampere current for two and one-half hours without resetting.

Price of lamp, without support.....\$8.00



Rheostats

The "Power's" line of rheostats include four distinct styles which are kept in stock at all times, and special rheostats can be supplied to order to meet any special conditions.

The 25 Ampere Adjustable Rheostat

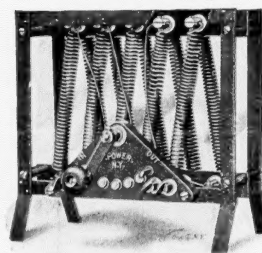


FIG. 9

This rheostat is shown in Fig. 9, and can be used on direct current up to 110 volts or on alternating current up to 104 volts. It will carry safely 25 amperes of current. Each resistance coil is independent from every other, so far as its supports are concerned, and if a coil burns out under an overload of current it can be quickly replaced. The adjustment is effected by simply swinging the handle lever. To obtain more current, one or more of the coils are cut out by swinging the lever to the right. Price.....\$10.00

The Underwriters' Rheostat

This rheostat (Fig. 10) is similar in construction to the 25 ampere adjustable rheostat, but is not adjustable, and it is enclosed in a perforated sheet steel cover to meet the requirements of the the New York Board of Fire Underwriters.

Price.....\$12.00

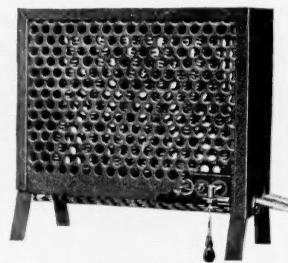


FIG. 10

120 Volt Circular Rheostat

This rheostat (Fig. 11) is constructed with heavier resistance wire than the rheostats before described and is more expensive and serviceable throughout. It is adjustable for use on voltage varying from 52 to 120 and will carry safely 35 amperes of current.

Price.....\$20.00

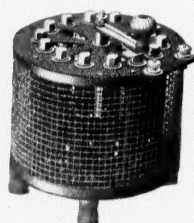


FIG. 11

The 240 Volt Circular Rheostat

This is the largest rheostat in the regular "Power's" line and is adapted for use on any current from 52 volts to 240 volts. It is adjustable to carry from 10 to 45 amperes and is so arranged that it can be conveniently divided and the two halves used separately or in multiple. Price.....\$30.00

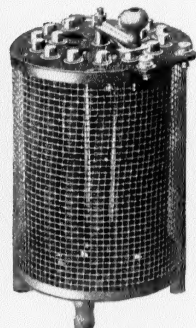


FIG. 12

Fireproof Film Magazines

The introduction of fireproof film magazines in 1904 marked a new era in the history of moving pictures and it is hardly too much to say that they saved the business from extinction. Many disastrous fires from moving picture exhibitions, some accompanied by loss of life, had raised a hue and cry against moving pictures on all sides and many exceedingly burdensome regulations were under consideration over the country when these magazines were submitted for consideration by the authorities in New York and Massachusetts. The adoption of Power's film magazines as standard equipment in these States was followed almost at once by

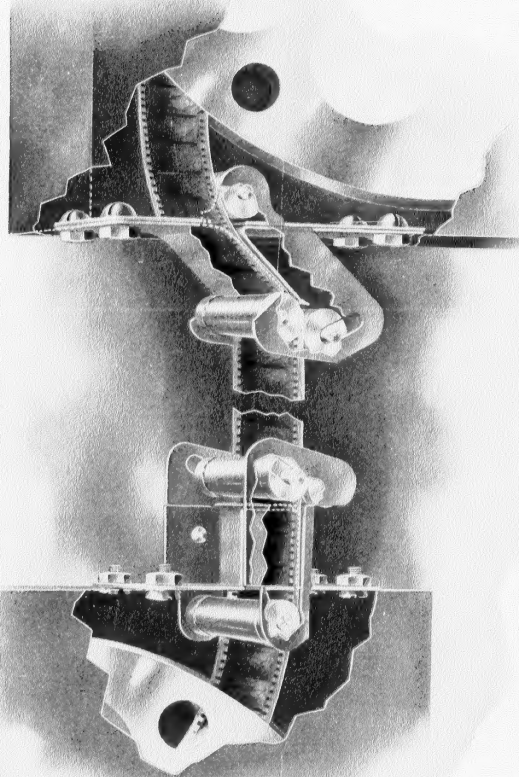


FIG. 13

similar action in many other States and the burdensome regulations under consideration at the time were dropped.

The magazines supplied with Power's Cameragraph are designed to afford complete protection to the enclosed film and to insure the film from any injury in passing into or out of the magazines. The general arrangement of parts in the magazines is shown in Fig 14, and the details of the valve construction and operation are shown in Fig 13.

The magazines are of the square type and have been demonstrated to be absolutely fireproof on many occasions. The upper magazine is mounted on the mechanism itself, and the lower magazine is furnished with a supporting device adapted for use at the front of the stand or underneath, as preferred. The magazines are made of the heaviest Russia iron, mounted on malleable iron castings and constructed in the most workman-like manner possible.

The valves now used on our film magazines are worthy of special attention. Each of them consists of a narrow chute or guide-way provided at the ends with rollers to prevent frictional contact of the film with the sides of the guide-way. In addition to these rollers, there is provided at the outer end of each guide-way an additional roller, which is mounted in inclined slots, so that it is always held in contact with the film by gravity.

In cases of fire this roller never has failed to extinguish the flame; but even if flame should pass the rollers at the outer end of the chute of one of the valves it would be at once smothered in the chute itself.

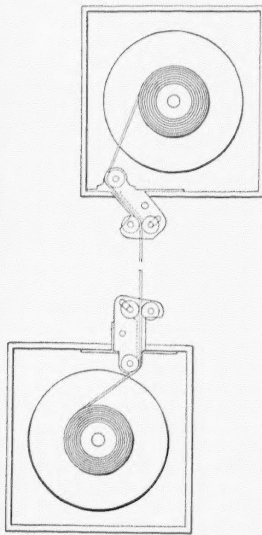


FIG. 14

A set of magazines includes the upper magazine and a lower or front magazine. The upper magazine always contains the supply reel of film and the lower or front magazine, as the case may be, contains the take-up reel on which the film is taken up as it comes from the mechanism. For this reason the lower or front magazine is always equipped with our Patent Take-up Device which is described below, and the reel is securely keyed to the take-up spindle.

Either the lower or front magazine is supplied at the option of the purchaser, but the lower magazine is recommended as in every way preferable and is always supplied unless the front magazine is distinctly specified. Price, per set,\$27.50.

Patent Take-up Device

To take up the film without injury as it passes from the cameragraph mechanism we employ in conjunction with the take-up feed attached to the mechanism an ingenious device which maintains uniform tension upon the film at all times and takes it up at exactly the rate at which it is delivered from the mechanism. This take-up device comprises a bracket, by which it can be attached at the front of the mechanism (as shown in Figs. 2 and 3) or the bottom of the table board, a spindle to support the take-up reel, and a pulley over which runs a driving belt driven by the cameragraph mechanism. This pulley is divided into two separate plates held together by a spring on the spindle and the belt groove is between them. The tension of the spring determines the tension on the film and may be regulated easily by means of an adjustable collar on the spindle.

The take-up device is furnished regularly in connection with the lower or front magazine and is not sold separately, except on special order. Price,\$7.50.

Automatic Fire Shutters and Film Shields.

Not long after the introduction of fire-proof film magazines to the attention of the moving picture public, the first automatic fire shutter ever built in America was fitted by Mr. Power to a special model of the cameragraph which he had built for his own use. Since the production of that original automatic shutter, two distinct types of automatic shutter for attachment to the cameragraph have been produced and may be supplied at the option of the purchaser.

Style "A" Automatic Fire Shutter

With Upper Film Shield---Fig. 15

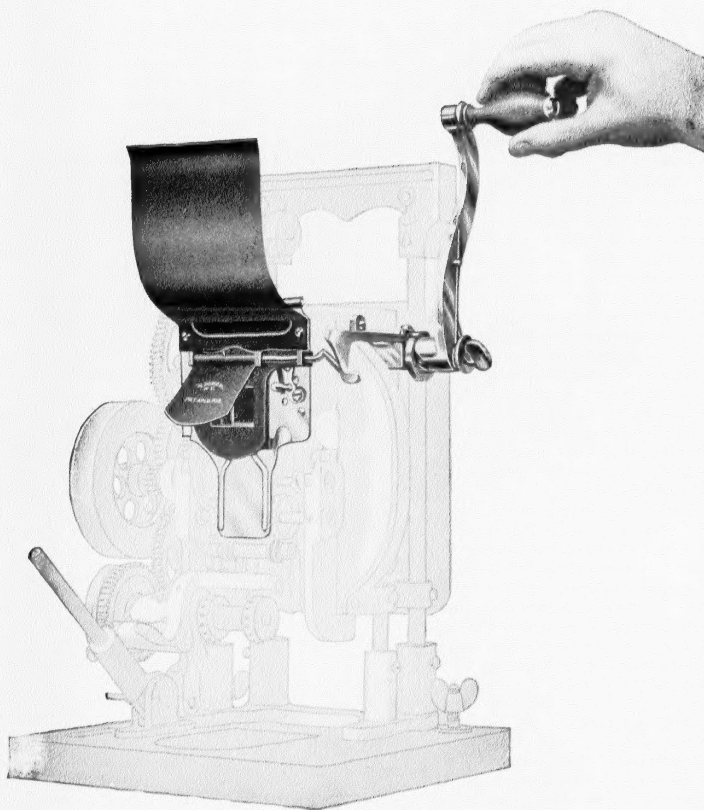


FIG. 15

This automatic shutter, which is especially adapted for a hand-power mechanism, comprises a flap carried by a rock-shaft, which is mounted on suitable bearings on the film gate of the mechanism, and shutter operating devices mounted on the main frame of the mechanism and adapted to engage the bent end of the rock-shaft when the film gate is closed, but so constructed as not to interfere in the slightest degree with the free opening and closing of the film gate. The operating devices include a lever mounted on the main frame of the mechanism in suitable position to engage the end of the rock-shaft carrying the shutter flap, a crank mounted loosely on the main driving shaft of the mechanism, and springs by which the crank and lever are held normally in position to permit the shutter flap to fall under the influence of gravity. The crank is formed with a sleeve which encircles the main driving shaft, and this is provided with cam slot in which a pin on the main driving shaft works. The inclination of the cam slot is such that when power is applied the crank is forced inward upon the shaft and brought into contact with the lever by which the shutter flap is raised. This inward movement of the crank is opposed by two springs, which hold it normally in position at the extreme end of the main driving shaft, but when power is applied to the crank through the hand of the operator the action of the springs is overcome and the crank slides inward along the shaft, thus operating the lever and raising the shutter flap so as to uncover the projection aperture. As long as the power necessary for operating the mechanism is maintained on the crank the shutter flap is retained in elevated position, but it drops instantly when power is taken off the crank, the springs acting promptly to restore the crank and lever to their normal position.

The "A" shutter is characterized by very little friction in operation and by complete absence of noise from the working of its parts. It is not adapted for use on motor driven machines, and its operation is not dependent on the speed of operation of the machine. It passes inspection in most localities, but is not approved where a speed controlled shutter is required. It is always furnished with the upper film shield shown in connection with it.

Price, fitted to cameragraph mechanism.....\$8.00

Style "B" Automatic Fire Shutter

With Upper and Lower Film Shields—Fig. 16

The style "B" automatic shutter and the upper and lower film shields supplied with it afford the most complete protection for the film of any devices of this character now on the market. They were designed in response to a demand for an absolutely reliable automatic shutter adapted for hand-power or motor operated mechanisms.

The shutter comprises a shutter flap of the same type as that employed in our style "A" automatic fire shutter and shutter operating devices mounted on the main frame of the mechanism which operate only after the film has been set in motion and has reached proper exhibiting speed. These devices comprise a shaft supported in brackets attached to the top of the mechanism and provided with a pinion which meshes with the gearing of the mechanism so that the shaft begins to rotate as soon as the mechanism is set in operation. Connection is made from the shaft to a lever so supported that when a certain speed is reached the lever will act to lift the shutter flap into horizontal position and expose the projection aperture, but as soon as the motion of the film ceases the shutter flap drops into position to cover the aperture.

The upper film shield furnished with the style "B" automatic shutter is the same as that furnished with the style "A" shutter. The lower film shield, however, is regularly furnished only with the style "B" shutter and is hinged to the base-board of the mechanism at its rear margin so as to allow sufficient space in front of the shield for adjusting the film on the third sprocket. A spring is provided around one of the hinge pivots to hold the lower film shield normally in contact with the film gate, thus covering completely the portion of the film between the lower margin of the film gate and the valve of the lower magazine.

The price of the style "B" automatic shutter complete with both upper and lower film shields is \$12.00, and mechanisms returned to our factory will be fitted with the shutter and film shields at this price.

The lower film shield alone is sold at a price of \$1.50.



FIG. 16
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Switches and Switch Covers

The switch supplied is of the double pole single throw type, and of ample carrying capacity. The switch cover is made of the heaviest Russia iron and the eyelets for the connecting wires are protected by porcelain bushings. Both switch and cover are furnished with the New York Approved outfit, but only the switch with other equipments, unless otherwise ordered.

Prices,—Switch, \$.75. Switch cover,.....\$1.50.

Condensers

The condensers are 4½ in. in diameter. The one nearest the arc is of 6½ in. focus and that farthest away from the light 7½ in. focus. The lenses are made of the highest quality imported optical glass and are mounted in a brass holder. This holder is so constructed as to permit the expansion and contraction of the glass, and reduces the cracking of the lenses to a minimum. When ordering condensing lenses specify whether the 6½ in. or 7½ in. focus is desired.

Connecting Wires

The connecting wires are made of No. 10 asbestos covered wire with patented solderless terminals. We are also prepared to furnish No. 8 and No. 6 wire if desired. For No. 8 wire an extra charge of \$1.00 per set of wires is made and for No. 6 an extra charge of \$2.00 is made.

Projection Lenses

The lenses used and sold by us are made of the finest grade of optical glass, mounted in jackets with the rack and pinion adjustment. The motion picture and stereopticon lenses regularly furnished with the cameragraph are of the highest quality and are matched as closely as possible to produce pictures of uniform size on the screen. These lenses are considered standard size and will project approximately a picture one foot wide for every four feet of distance. When ordering cameragraphs, customers should mention the height and width of picture desired and the distance from machine to screen and we will then furnish lenses to approximate these requirements.

The following table covers all the sizes of lenses as used wide angle, standard size, or long range. (Information concerning lenses of longer range furnished upon request).

Projection Table

Showing distance from object to screen, width of picture in feet and focus of lens. The stereopticon lenses match the motion picture lenses approximately according to the following table:

Back Focus of M. P. Lens.	Size of Image on Screen	Distance from object to screen, in feet. (Approximate)															
		10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60
No. A 3 inch	2	4	6	8	10	12	14	16	18	20	2	4	6	8	10	12
No. B 2½ "	3	6	9	12	15	18	21	24	27	30	3	6	9	12	15	18
No. C 2 "	4	8	12	16	20	24	28	32	36	40	4	8	12	16	20	24
No. D 1½-16 "	4	8	12	16	20	24	28	32	36	40	4	8	12	16	20	24

Price of Motion Picture Lens No. A—\$10.00 Stereon. to match No. A, price \$8.00
 " " " " " B—8.00 " " " B, " 8.00
 " " " " " C—12.00 " " " C, " 8.00
 " " " " " D—12.00 " " " D, " 10.00

In the above table it will be seen that the No. "A" lens secures an increase in width of picture of 2 feet 2 inches for every 10 feet; the No. B 2 feet 4 inches for every 10 feet; the No. C 3 feet 1½ inches for every 10 feet, and the No. D 4 feet 5 inches for every 10 feet.

We are also prepared to furnish imported French interchangeable M. P. lens tubes of the highest grade with rack and pinion adjustment jackets. This combination lens is of great convenience to traveling exhibitors, where the projecting distances are varied. The price of lens tubes is \$5.00, and jackets \$5.00.

Motion Picture Adjustable Lens

This lens will project a picture of any size between the limits specified below without changing the location of the machine. The focus is obtained in the usual way, by turning the milled screw head of rack and pinion movement. The size of the picture is varied by turning the head of the lens. The price is \$20.00.

Projection Table

DISTANCE	WIDTH OF PICTURE
20 feet	5 to 7 feet
40 "	10 " 14 "
60 "	15 " 20 "
80 "	20 " 26 "

Power's Cameragraph

"New York Approved" Equipment

With Style "B" Automatic Fire Shutter and Upper and Lower Film Shields.

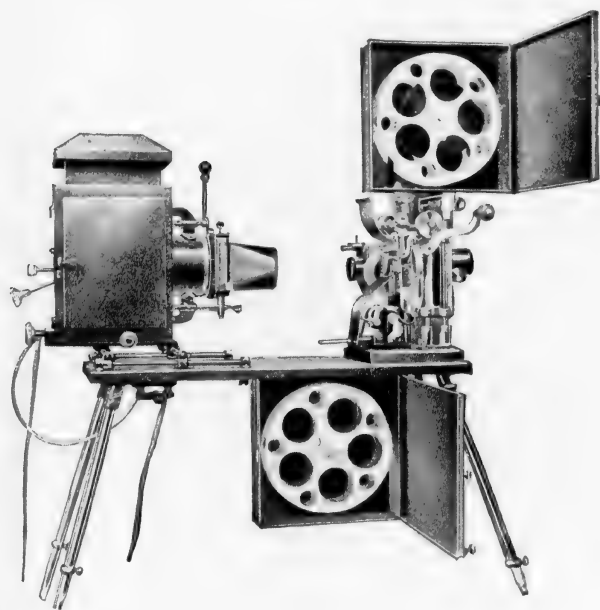


FIG. 17

"New York Approved"

EQUIPMENT

Approved by the New York Board of Fire Underwriters and the Department of Water Supply, Gas and Electricity.

Cameragraph Mechanism No. 5.
 Upper film magazine.
 Lower film magazine.
 Patented take-up attachment on lower film magazine.
 Table board with leg flanges.
 Set of 4 telescoping tubular legs nickel plated.
 New York approved lamp house complete with mica lined top and slidings ways.
 Electric lamp complete.
 Adjustable lamp shoe and post with screw adjustment.
 Russia iron cone and adjustable slide carrier frame.
 Double slide carrier and condensers complete with two lenses and bronze mount.
 First quality motion picture objective lens.
 First quality stereopticon objective lens with adjustable stereopticon attachment.
 Double knife switch with slate base, Russia iron switch cover.
 Set of asbestos covered wire connections for lamp and rheostat with solderless terminals.
 Underwriters' enclosed rheostat [non-adjustable] for 104 volts alternating current or 110 volts direct current.
 Style B, automatic fire shutter, upper and lower film shields.
 One reel hanger with winding attachment for 10 inch reel.
 Two 10 inch reels.
 Price complete, as listed,.....\$195.00

Variations in Equipment.

	PRICE
N. Y. Approved Equipment with standard calcium burner instead of electric light apparatus.....	\$185.00
With 25 ampere adjustable rheostat (instead of underwriters').....	193.00
With 120-volt circular rheostat.....	203.00
With Power's Inductor.....	260.00
With 240-volt circular rheostat.....	213.00
With regular lamp house (instead of N. Y. approved).....	189.00
With regular lamp house and 25 ampere adjustable rheostat	187.00

For prices when parts are omitted, see Table of Allowances, page 36.

Power's Cameragraph

"Standard Underwriters'" Equipment

With Style "A" Automatic Fire Shutter and Upper Film Shield

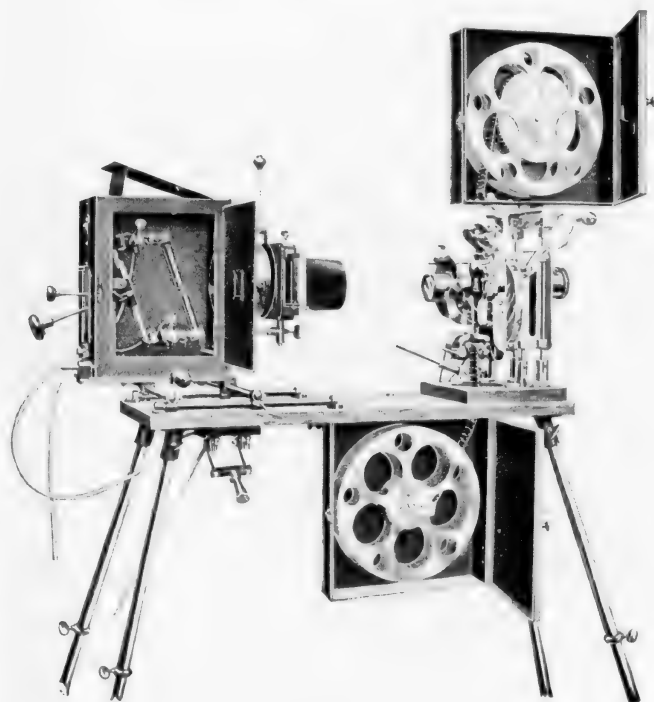


FIG. 18

ERRATA. Figure 18 on page 26, and Figure 19 on page 28, should be interchanged.

Standard Underwriters'

EQUIPMENT

Approved Everywhere Outside of New York and Chicago.

Cameragraph Mechanism No. 5.
 Upper film magazine.
 Lower film magazine.
 Patented take-up attachment on lower film magazine.
 Table board with leg flanges.
 Set of 4 telescoping tubular legs nickel plated.
 Regular lamp house complete with sliding ways.
 Electric lamp complete.
 Adjustable lamp shoe and post with screw adjustment.
 Russia iron cone and adjustable slide carrier frame.
 Double slide carrier and condenser complete with two lenses and bronze mount.
 First quality motion picture objective lens.
 First quality stereopticon objective lens with adjustable stereopticon attachment.
 Double knife switch with slate base.
 Set of asbestos covered wire connections for lamp and rheostat with solderless terminals.
 Underwriters' enclosed rheostat [non-adjustable] for 104 volts alternating current or 110 volts direct current.
 Style A, automatic fire shutter and upper film shield.
 One reel hanger with winding attachment for 10 inch reel.
 Two 10 inch reels.
 Price complete, as listed.....\$185.00

Variations in Equipment

	PRICE
Standard Underwriters' Equipment with standard calcium burner instead of electric lighting apparatus.....	\$175.00
With 25 ampere adjustable rheostat (instead of underwriters').....	183.00
With 120-volt circular rheostat.....	193.00
With 240-volt circular rheostat.....	203.00
With Power's Inductor.....	250.00
With N. Y. approved lamp house (instead of regular).....	191.00

For prices when parts are omitted, see Table of Allowances, page 36.

Power's Cameragraph Regular Equipment

Without Automatic Fire Shutter or Film Shields

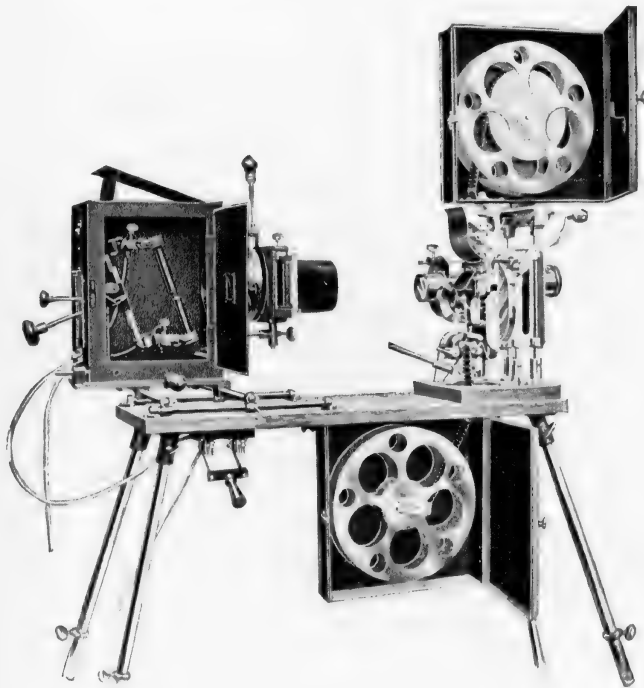


FIG. 19

Regular Equipment

Cameragraph Mechanism No. 5.
 Upper film magazine.
 Lower film magazine.
 Patented take-up attachment on lower film magazine.
 Table board with leg flanges.
 Set of 4 telescoping tubular legs nickel plated.
 Regular lamp house complete with sliding ways.
 Electric lamp complete.
 Adjustable lamp shoe and post with screw adjustment.
 Russia iron cone and adjustable slide carrier frame.
 Double slide carrier and condenser complete with two lenses and bronze mount.
 First quality motion picture objective lens.
 First quality stereopticon objective lens with adjustable stereopticon attachment.
 Double knife switch with slate base.
 Set of asbestos covered wire connections for lamp and rheostat with solderless terminals.
 25 ampere adjustable rheostat, for 110 volt direct or 104 volt alternating current.
 One reel hanger with winding attachment for 10 inch reel.
 Two 10 inch reels.
 Price complete, as listed.....\$175.00

Variations in Equipment

	PRICE
Regular equipment with standard calcium burner instead of electric lighting apparatus.....	\$165.00
With Underwriters' Rheostat (instead of 25 ampere adjusted)	177.00
With 120-volt circular rheostat.....	185.00
With 240-volt circular rheostat.....	195.00
With Power's Inductor	240.00
With N. Y. approved lamp house (instead or regular).....	187.00

For prices when parts are omitted, see Table of Allowances, page 36.

Accessories

Calcium Light

Electric light is by far the most convenient and the most powerful illuminant for moving picture projection, but, in places where suitable electric current is not available, calcium light may be used with excellent results. This light, sometimes called oxy-hydrogen light, is produced by burning in combination oxygen and hydrogen gases and directing the colorless flame so produced against a cylinder of lime. We supply burners for the calcium light at several prices according to the elaborateness of construction.

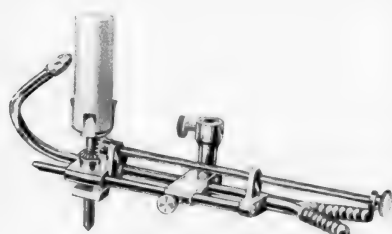


FIG. 20

Our "Standard" calcium burner (Fig. 20) is a thoroughly serviceable burner constructed throughout of brass and heavily nickel plated. The lime support is carried on a threaded standard turning in extra long bearings and assuring perfect steadiness of the lime.

Price, with six feet of rubber tubing for connections.....\$5.00

The "Premier" calcium burner is a more elaborate burner with every possible adjustment that may be desired. Needle valves control the delivery of the gas to the mixing chamber and a special form of nozzle absolutely prevents "popping" when the gases are ignited. A special screw adjustment of the lime support in relation to the nozzle is a refinement that will appeal to experienced operators.

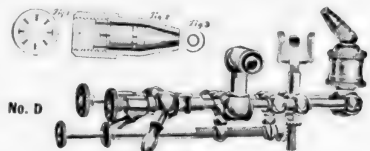


FIG. 21

Price, complete.....\$12.00

Gas-Making Outfits

When it is possible to do so, it is desirable for the users of calcium light to use the gases compressed in steel cylinders, which are furnished by the calcium light companies in all large cities. To supply the gases where the compressed gases are not available, various forms of portable gas-making outfits have been devised, and we are prepared to furnish any type.

Portable Gas-Making Outfits

Oxylith Gas-Making Outfit

The Oxylith Gas-Making Outfit was invented as a natural sequence to the production of a compound by a French chemist, which produces oxygen when it touches water, without the application of heat. The outfit consists of two parts:

1. THE OXYGEN GENERATING APPARATUS.
2. THE SATURATOR, OR APPARATUS used to replace the hydrogen tank.

The oxygen apparatus consists, as shown in illustration, of a lower tank, which contains a cage into which the oxylith, or chemical, is placed; stand-pipe and upper vessel serve to hold the water supply and give the requisite pressure.

To prepare the apparatus for an exhibition, the lower vessel, which is placed upon the floor, is partly filled with water. The cage, which is not visible in illustration, receives a box of the chemical oxylith, is then placed in position, and the cover clamped. A quantity of water is poured in at the top, and runs through the pipe to the bottom, raising the level of the water which it previously contained. As soon as this touches the oxylith contained in the cage, pure oxygen is generated.

This is held between the water level and the top of the lower vessel, the column of water



FIG. 22

serving to give about two pounds pressure. As the entire compartment is only 15 inches in height, and 9 inches in diameter, and part of it is filled with water when gas is being used, it will be seen that at no time is there a large volume of gas present.

When the gas is being consumed, and the pressure lightened the water column forces the water to a higher level, where it again comes into contact with oxyliith, generates more gas, whose volume lowers the water level and forces it back through the pipe into the upper vessel. This process continues until the entire volume of oxyliith has been exhausted. When the gas is not being used generation ceases.

The saturator is attached to the stand-pipe, and its contents saturated with sulphuric ether. The gas is led from the valve shown in the lower section of the pipe to the burner, giving pure oxygen. The other stop-cock of the burner is connected by rubber tubing to the valve at the top of the saturator, which then feeds ether-oxygen.

The oxygen produced by this means is over 99 per cent pure; while that bought in tanks is usually 89 per cent pure.

While the maximum pressure of the gases contained in the American gas tanks is 225 pounds, pressure actually required at the burner tip is less than one pound.

We recommend this outfit, because we consider it extremely practical. Its compactness and light weight offer a great advantage over the heavier and bulkier types of gas-making outfits, while the expenses are about the same as gases bought in tanks.

The dimensions and weight of the outfit are as follows: Height, when set up, from floor to top of water supply vessel, 44 inches; height of oxygen compartment, 15 inches; diameter of oxygen compartment, 9 inches.

The weight of the complete outfit, including saturator, packed in case, is 35 pounds. One box of 24 cakes of oxyliith will generate sufficient gas to last one and one-half hours.

	PRICE
Oxyliith gas-making outfit complete (without chemicals and calcium burner).....	\$37.50
Oxyliith oxygen compound (24 cakes in sealed can).....	1.35
Oxone oxygen compound (24 cakes in sealed can).....	1.35

Improved Film Rewinder

This rewinder, as shown in accompanying cut, consists of a malleable iron casting so constructed as to hold two reels and can be readily attached to a table or shelf by means of the clamp and

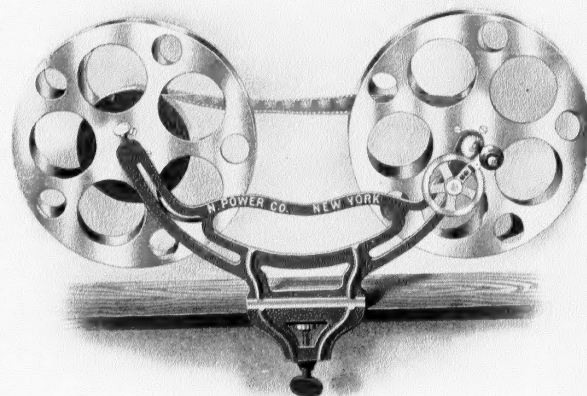


FIG. 23

thumb screw. There is a space of fourteen inches between the reel centers so that ample opportunity is given for the inspection of the film as it is being re-wound.

Film Measuring Machine

Our measuring machine is the most accurate now on the market. It consists of a baseboard, at one end of which is clamped a reel hanger and a reel supporting frame at the other end. The

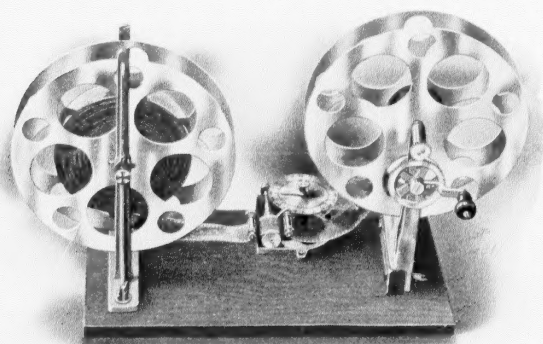


FIG. 24

film passes between guide rollers through the measuring device, which is so constructed as to be absolutely accurate. The accompanying cut shows an illustration of this indispensable machine.

Slide Carriers

With all cameragraphs we furnish a double slide carrier substantially made and neat in finish, which is provided with an automatic slide lifter to facilitate the removal of slides.

Film Cement

We manufacture the highest grade of cement for joining films.

Trunks and Mechanism Cases

We have two styles of trunks made by the Leatheroid Manufacturing Company and the Bal Trunk Works. These trunks are specially designed for our cameragraphs and have separate compartments for the different parts of the machine. There is also ample room for carrying films, extra cord, screens and all accessories. A great many exhibitors object to shipping the mechanism of the cameragraph, and we have therefore made up a very convenient carrying case for the mechanism. It is made of the best indurated fiber with strap handle.

The price of trunks is \$35.00, and of carrying cases \$3.50.

Carbons

Power's "Special" Carbons

These are furnished in the sizes most generally used, viz.: $\frac{3}{8}$ in. x 6 in. soft core, and $\frac{1}{2}$ in. x 12 in. hard.

$\frac{3}{8}$ in. x 6 in. soft core, per 100.....	\$ 3.00
$\frac{3}{8}$ in. x 6 in. " " 1000.....	25.00
$\frac{1}{2}$ in. x 12 in. hard core, per 100.....	5.00
$\frac{1}{2}$ in. x 12 in. " " 1000.....	37.00

Other sizes furnished on special order.

Screens

Our screens are especially adapted for motion picture work and are furnished in the following sizes, made of the best quality of material, with loops around the four sides of the screen:

24 feet square.....	\$18.00
18 " "	12.00
15 " "	10.00
12 " "	7.00
9 " "	4.00

Table of Allowances

When any of the items listed below are omitted from any cameragraph outfit in which they are regularly listed, the amount stated for each item omitted may be deducted from the price of the outfit. No allowances are made for items not included in this table.

Condensers and mount.....	\$ 3.00
Electric lamp.....	5.00
Lamp House, regular, complete.....	16.00
“ “ N. Y. Approved, complete.....	20.00
Legs and flanges.....	5.00
Lens—Moving picture or stereopticon.....	6.00
Magazine, upper.....	10.00
“ “ lower, with take-up device.....	17.50
Reel Hanger.....	2.00
Rheostat, 25 ampere, adjustable.....	5.00
“ Underwriters'.....	7.00
Shutter, Style “A”, automatic.....	8.00
“ “ “B”, “ “.....	12.00
Switch and wire connections.....	1.00
Table Board.....	1.00
Take-up feed.....	7.50
Stereopticon attachment, including slide carrier.....	.75

Price List of Parts of Cameragraph

(This list does not include repair parts.)

Cameragraph Mechanism, without lenses, reel hanger or take-up feed.....	\$83.00
Cameragraph Mechanism, with reel hanger but without lenses or take-up feed.....	85.00
Mechanism without lenses or reel hanger but with take-up feed.....	90.50
Mechanism without lenses but with reel hanger and take-up feed.....	92.50
Lamp House, regular, complete, with sliding ways, slide carrier, condenser mount and condensers.....	20.00
Lamp House, New York Approved, complete with sliding ways, slide carrier, condenser mount and condensers.....	26.00
Electric lamp.....	8.00
Table complete with telescoping legs.....	10.50
Table legs, per set.....	6.50
Table leg flanges, per set.....	2.00
Table board.....	2.00
Asbestos covered lamp wire leads with Kleigl terminals, per set.....	1.50
Switch covers, Russia iron, each.....	1.50
Lenses (see page 25).....	
Upper film magazines, each.....	10.00
Lower film magazines with film take-up attachment.....	17.50
Film take-up separate from magazines, front or lower, complete with take-up feed.....	15.00
Take-up feed (for attachment to mechanism) alone.....	7.50
Take-up attachment, less take-up feed.....	7.50
Automatic fire shutter, style “A”, with upper film shield.....	8.00
Automatic fire shutter, style “B”, with upper and lower film shields.....	12.00
Upper film shield alone.....	.50
Lower film shield alone.....	1.50

Supplies

Asbestos covered lamp wire, No. 10, per foot.....	\$0.07
“ “ “ “ “ “ 8, “10
“ “ “ “ “ “ 6, “15
Belts, for take-up device, each.....	.30
Belt couplings, per pair.....	.15
Blank film, per foot.....	.05
Carbons, “ Power's Special ” or Electra	
$\frac{5}{8}$ in. x 6 in. soft core, each.....	.03
$\frac{5}{8}$ in. x 12 in. solid, each.....	.05
Coils, for 25 ampere rheostat, each.....	.45
“ “ Underwriters’ “ “45
“ “ 35 ampere rheostat, “75
“ “ 120-volt circular, rheostat, each.....	.75
“ “ 240 volt “ “	1.15
Condensers, 4 15 32 in. diameter, $6\frac{1}{2}$ in. or $7\frac{1}{2}$ in. focus, each	1.00
“ “ “ “ “ “ “ “ per doz.	9.00
Condenser Mounts, each.....	2.00
Cotters, for holding lower reel in magazine.....	.15
Film cement, per bottle.....	.20
Film measuring machine.....	25.00
Limes, per box of 1 dozen.....	1.00
Reel hangers, each.....	3.00
Rewinders, each.....	3.50
Reels, 10-inch, steel, each.....	1.00
“ 12-inch, “ “	1.50
“ 12-inch, aluminum, each.....	2.50
Rubber tubing for calcium burners, per foot.....	.10
Slide boxes, to hold 100 slides.....	2.00
Slide carriers, (double) wood, each.....	.50
Slide Carriers, (single), for dissolving views.....	2.00
Switch, 35 ampere, single throw, double pole, each.....	.75
Terminals, for wire connections, for No. 10 wire, each.....	.06
Terminals, for No. 8 wire, each.....	.08
Tips, for calcium burners, standard, each.....	.25

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